PATENT CLAIMS

1. A method for operating a combined-cycle power station, the combined-cycle power station comprising at least one gas turbo group (1), at least one heat recovery steam generator (7) and at least one steam turbo group (13), with the gas turbo group (1) comprising at least one compressor (2), at least one combustion chamber (3) and at least one gas turbine (4), the heat recovery steam generator (7) having at least one pressure stage, and the steam turbo group (13) comprising at least one steam turbine (14, 15), and a supplemental firing being arranged in the gas turbo group exhaust gas path downstream the gas turbine, the method comprising the steps of: compressing air in the compressor, supplying the compressed air to the combustion chamber, using the compressed air as combustion air thus producing a hot gas, passing said hot gas through the gas turbine, passing the exhaust gas through the heat recovery steam generator, producing steam in the heat recovery steam generator, and supplying said steam to the steam turbo group,

the method further comprising the step of immediately, rapidly, and temporarily remaining increasing the power output of the combined cycle power station, in: increasing the firing rate of the gas turbo group in increasing the fuel supply to the gas turbo group thus increasing the power output of the gas turbo group, taking the supplemental firing into operation thus increasing the steam production, and subsequently reducing the power output of the gas turbo group to the same extend as the increased steam production becomes available as steam turbo group shaft power.

2. The method as claimed in claim 1, further comprising the step of reducing the firing rate of the gas turbo group essentially to an original level such

that the temporarily remaining increase of the power output is solely effected by the supplemental firing.

3. The method as claimed in claim 1, further comprising the step of increasing the power output of the combined cycle power station by 5% through 15% of the combined cycle power station nominal rated power.

4. The method as claimed in claim 3, wherein th power increase is in the range of 5% through 10 % of the combined cycle power station nominal rated power.

5. The method as claimed in claim 3, the method further comprising the step of increasing the power within 5 through 30 seconds.

6. The method as claimed in claim 5, the method wherein the power is increased within less than 10 seconds.

7. The method as claimed in claim 3, wherein the power increase is maintained during 5 through 50 minutes.

8. The method as claimed in claim 7, wherein the duration of the temporary power increase is 15 through 30 minutes.

9. The method as claimed in claim 1, further comprising the step of having reduced the power output of the gas turbo set to the original value within 10 seconds through 5 minutes after the power increase.

10. The method as claimed in claim 1, further comprising the step of having reduced the power output of the gas turbo set to the original value within 30 seconds through 2 minutes after the power increase.

11. The method as claimed in claim 1, further comprising the step of triggering the power increase by a decrease of the grid frequency.

12. The method as claimed in claim 11, wherein the triggering grid frequency decrease is in the range from 0.1 Hz through 3.0 Hz.

13. The method as claimed in claim 11, wherein the triggering grid frequency decrease is in the range from 0.5 Hz through 1.0 Hz.

14. The method as claimed in claim 1, the method further comprising the step of operating the gas turbo group at nominal full load, and effecting the increase of the gas turbo group power output by overfiring the gas turbo group.